

REMARKS

The allowance of claims 77-82 and 84 and the statement that claim 66 contains allowable subject matter is gratefully acknowledged.

Claims 30, 36, 43, 52, 68, 72 and 75 have been amended. Claims 42, 53, 64-66 and 69-70 have been canceled in this paper solely to further the prosecution of the application. Claims 30-32, 34-41, 43-52, 54-63, 67, 68, 71-82 and 84 are pending in the present application, of which claims 77-82 and 84 have been allowed. Applicants reserve the right to pursue the original claims and other claims in this application and in other applications.

Claims 36, 68, 71 and 72 stand objected to based on certain informalities raised in the Office Action. Claims 36, 68 and 72 have been amended. The amendments address the concerns raised in the Office Action. Accordingly, Applicants respectfully request that the objection be withdrawn.

Claims 30, 39, 68, 72 and 75 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kothari. The rejection is respectfully traversed.

Claim 30 recites a pixel circuit comprising “a storage node ...; an amplifier ... having a first power mode during a first operational period and a second power mode during a second operational period; a feedback capacitor ...; and a reset switch.” According to claim 30, the reset switch “resets said storage node and said amplifier when closed.” Applicants respectfully submit that claim 30 is allowable over Kothari.

Specifically, Kothari fails to disclose a pixel circuit comprising an amplifier configured in the manner recited in claim 30. In addition, Kothari fails to disclose a reset switch that “resets said storage node and said amplifier when closed.” This fact is acknowledged by the Office Action. Office Action at 14. Accordingly, claim 30 is

allowable over Kothari. Claim 39 depends from claim 30 and is allowable along with claim 30.

Claim 68 recites an imaging circuit comprising an array of pixels. Each pixel includes “an amplifier that amplifies a signal received from said storage node, said amplifier having a first power mode during a first operational period and a second power mode during a second operational period; a feedback capacitor that provides feedback to an input of the amplifier; and a reset switch that resets said storage node when closed.” According to claim 68, “an output circuit of said amplifier is located outside said array of pixels and said amplifier is a capacitive transimpedance amplifier.” Applicants respectfully submit that claim 68 is allowable over Kothari.

Specifically, Kothari fails to disclose a pixel circuit comprising an amplifier configured in the manner recited in claim 68. Specifically, Kothari fails to disclose an amplifier, wherein “an output circuit of said amplifier is located outside said array of pixels and said amplifier is a capacitive transimpedance amplifier.” This fact is acknowledged by the Office Action. Office Action at 14. Accordingly, claim 68 is allowable over Kothari. Claim 72 depends from claim 68 and is allowable along with claim 68.

Claim 75 recites an array of pixel cells, where each pixel cell includes “an amplifier ... having a first power mode during an integration period and a second power mode during a readout period; a feedback capacitor ...; and a reset switch.” The claim 75 reset switch “resets said capacitor and amplifier when closed.” Accordingly, claim 75 is allowable over Kothari for at least the reasons set forth above with respect to claim 30 and on its own merits.

Applicants respectfully submit that the rejection should be withdrawn and claims 30, 39, 68, 72 and 75 allowed.

Claims 37, 41, 43 and 45-48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kothari. The rejection is respectfully traversed.

Claims 37 and 41 depend from claim 30 and are allowable along with claim 30 for at least the reasons set forth above.

Claim 43, and its dependent claims 45-48, recites a pixel array containing pixel cells, where each pixel cell includes “an amplifier with an input that receives the first signal and an output that provides an output signal based on the first signal, said amplifier having a first power mode during an integration period and a second power mode during a readout period; feedback capacitance that provides feedback from the amplifier output to the amplifier input; and means for resetting said amplifier and said capacitance.” Accordingly, claims 43 and 45-48 are allowable over Kothari for at least the reasons set forth above with respect to claim 30 and on their own merits.

Applicants respectfully submit that the rejection should be withdrawn and the claims allowed.

Claims 31, 32, 34, 35, 42, 51 and 71 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kothari in view of Henderson. The rejection is respectfully traversed.

Claims 31, 32, 34 and 35 depend from claim 30, which recites “a storage node ...; an amplifier ... having a first power mode during a first operational period and a second power mode during a second operational period; a feedback capacitor ...; and a reset switch that resets said storage node and said amplifier when closed.” As set forth

above, Kothari fails to disclose or suggest these limitations of claim 30. Applicants respectfully submit, that Henderson does not overcome the above-noted deficiencies. As such, claims 31, 32, 34 and 35 are allowable over the cited combination for at least the reasons set forth above.

Claim 51 depends from claim 43, which recites “an amplifier with an input that receives the first signal and an output that provides an output signal based on the first signal, said amplifier having a first power mode during an integration period and a second power mode during a readout period; feedback capacitance that provides feedback from the amplifier output to the amplifier input; and means for resetting said amplifier and said capacitance.” As set forth above, Kothari fails to disclose or suggest these limitations of claim 43 and 51. Applicants respectfully submit, that Henderson does not overcome the above-noted deficiencies. As such, claim 51 is allowable over the cited combination for at least the reasons set forth above.

Claim 71 depends from claim 68, which recites “an output circuit of said amplifier is located outside said array of pixels and said amplifier is a capacitive transimpedance amplifier.” As set forth above, Kothari fails to disclose or suggest these limitations of claim 68 and 71. Applicants respectfully submit, that Henderson does not overcome the above-noted deficiencies. As such, claim 71 is allowable over the cited combination for at least the reasons set forth above.

Applicants respectfully submit that the rejection should be withdrawn and the claims allowed.

Claims 38, 50, 52-57, 62-64, 67, 70 and 74 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kothari in view of Brehmer. The rejection is respectfully traversed.

Claim 38 depends from claim 30, which recites "a storage node ...; an amplifier ... having a first power mode during a first operational period and a second power mode during a second operational period; a feedback capacitor ...; and a reset switch that resets said storage node and said amplifier when closed." As set forth above, Kothari fails to disclose or suggest these limitations of claim 30. Applicants respectfully submit, that Brehmer does not overcome the above-noted deficiencies. As such, claim 38 is allowable over the cited combination for at least the reasons set forth above.

Claim 50 depends from claim 43, which recites "an amplifier with an input that receives the first signal and an output that provides an output signal based on the first signal, said amplifier having a first power mode during an integration period and a second power mode during a readout period; feedback capacitance that provides feedback from the amplifier output to the amplifier input; and means for resetting said amplifier and said capacitance." As set forth above, Kothari fails to disclose or suggest these limitations of claim 43 and 50. Applicants respectfully submit, that Brehmer does not overcome the above-noted deficiencies. As such, claim 50 is allowable over the cited combination for at least the reasons set forth above.

Claim 52 has been amended to include the limitations of claim 66, which the Office Action has stated in allowable. As such, claims 52, 54-57, 62-63 and 67 are allowable for at least the reasons set forth in the Office Action.

Claim 74 depends from claim 68, which recites "an output circuit of said amplifier is located outside said array of pixels and said amplifier is a capacitive transimpedance amplifier." As set forth above, Kothari fails to disclose or suggest these limitations of claim 68 and 74. Applicants respectfully submit, that Brehmer does not

overcome the above-noted deficiencies. As such, claim 74 is allowable over the cited combination for at least the reasons set forth above.

Applicants respectfully submit that the rejection should be withdrawn and the claims allowed.

Claims 40, 44, 49, 58-61, 65, 73 and 76 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kothari (in view of Brehmer for claims 54, 58 and 65) and Henderson. The rejection is respectfully traversed.

Claim 40 depends from claim 30, claims 44 and 49 depend from claim 43, claims 58-61 depend from claim 52, claim 73 depends from claim 68 and claim 76 depends from claim 75. As stated above, the cited combinations fail to disclose, teach or suggest all of the limitations of claims 30, 43, 52, 68 and 75. As such, claims 40, 44, 49, 58-61, 65, 73 and 76 are allowable over the cited combinations for at least the reasons set forth above and on their own merits.

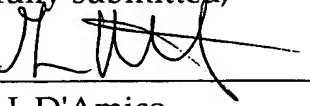
Applicants respectfully submit that the rejection should be withdrawn and the claims allowed.

Claim 66 stands objected to as depending upon a rejected base claim, but is otherwise allowable. The objection is respectfully traversed. Claim 66 has been canceled since its limitations have been placed in claim 52. Accordingly, the rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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